

POLREP 21
12th Street Dump Site
(aka 12th Street Landfill Site)
Near 12th Street ramp to I-495
Wilmington, DE 19802

ATTN: RRC

cc: A. Breslin
P. Welsh
Wilmington Council
G. Giles

I. SITUATION (as of 13 October 2000)
Event: CERCLA Removal Action

- A. Erosion and sedimentation control facilities continue to function properly. Siltation fencing has held, all drainage enters the sedimentation pond, and pond water remains clear. The rock check dam was replaced with new stone. No erosion from the site has been observed. Routine monitoring of silt fence shows all fencing to be intact.
- B. START continues air monitoring for total respirable dust in air. Analytical results indicate concentrations far below risk based concentrations (0.00-0.02 mg per cubic meter).
- C. During ongoing removal activities, seepage from the creek bank was identified as containing site contaminants. These contaminants exist at levels below risk based numbers once in the Brandywine River (e.g. less than chronic water quality standards). Oily material has also been discovered in the northern portion of the site in the creek bank. The existing/current EPA remedy may not be sufficient to completely stop these releases or potential releases. The OSC has directed the following activities: (1) installation of surface water drainageway to remove ponded water in the railroad ditch according to DNREC stormwater management program; (2) removal of the soil berm within the sedimentation pond outlet (at the end of the EPA project and after permanent erosion and sedimentation controls have been established); (3) removal of temporary sheeting which will allow groundwater levels in the waste to drop and likely reduce contamination significantly in the seepage; (4) removal of oil contaminated soil in and near the creek bank; (5) investigation of the source of oil near the creek bank; (6) monthly monitoring of seepage and pond water quality for at least six months to determine the quality of water exiting the site after EPA installs the soil cover; and, (7) identification and evaluation of more permanent remedies consistent with DNREC's HSCA program. The OSC will coordinate these activities with DNREC and ensure that the EPA removal remedy will not prevent installation of more permanent remedies, if practicable.

D. Estimated Project Costs (as of 13 October 2000):

ORGANIZATION	COSTS TO DATE	CEILING
ERRS (Guardian)	\$ 906,264	\$2,070,000
START (Weston/TtEMI)	\$ 35,029	\$ 120,000
EPA	\$ 58,891	\$ 240,000
Unallocated	-----	<u>103,000</u>
TOTAL	\$1,000,184	\$2,533,000

- D. START continues air monitoring for total respirable dust in air. Analytical results indicate concentrations far below risk based concentrations (0.00-0.02 mg per cubic meter).

I. ACTIONS

- A. START collected 3 water samples from the seeps emanating from the stream bank along Brandywine Creek after noting reddish water seeping from the bank; analytical data indicated the presence of elevated levels of iron (up to 117,000 mg/L), manganese (up to 8,280 mg/L), and lead (up to 1.78 mg/L).
- B. ERRS excavated debris-laden soil from the immediate area surrounding the seeps emanating from the streambank along Brandywine Creek near the southern end of the site. The seeps are originating from metal debris in the creek bank and from deeper within the site. New soil was placed in the excavated creek bank in an effort to reduce the reddish hue of seeping groundwater.
- C. ERRS RM conducted grade elevation measurements for features at the site (groundwater in geoprobe well, seeps, drainage ditch to east of site, etc); based on elevation measurements, it appears that water contained within the onsite sedimentation pond (as well as ponded water in the drainage ditch along the railroad tracks to the east of the site) and the presence of sheet pile along the site boundary may be causing more groundwater than usual to discharge as seeps along the stream bank of Brandywine Creek. The groundwater table is higher than four feet above mean sea level at this time.
- D. OSC Towle discussed with DNREC current and future operations at the site. Current and future plans include the dewatering of the drainage ditch along the railroad tracks through the installation of a drainage pipe leading to Brandywine Creek, and the removal of the dam for the onsite sedimentation pond upon completion of the removal action. These activities will likely

reduce hydraulic pressure (amount of groundwater) entering the waste and will enable existing groundwater to exit at low tide through a tidal pond. The resulting lower water table may decrease the amount of seepage through the creek bank. The OSC will investigate the installation of appropriate vegetation in the permanent pond which could accumulate metals.

- E. DelDOT representative Dave Wood arrived onsite to inspect progress made by ARS representatives in the moving of equipment from the state owned parcel of land bordering the site to the north.
- F. ERRS discovered oil seeping from somewhere near the junction of the existing sea wall and the sheet piling near the northern boundary of the site. The oil was contained and recovered using absorbent materials; the seepage area was covered with fill material in order to contain it until decisions could be made regarding future actions in this area.

III. FUTURE ACTIONS

- A. ERRS to begin receiving, spreading, and grading select backfill material for capping the site; ERRS also to acquire articulating concrete block system (ACBs) for use along the bank of Brandywine Creek.
- B. ERRS to excavate a series of test pits on the state owned parcel of land in the northern portion of the site to investigate subsurface conditions (including the source of oil seeps).
- C. Disposal of waste debris stockpiled onsite after proper sampling and waste classification.
- D. Extraction of sheet piling and preparation of Site for winter season.

Michael Towle, OSC
EPA Region III
Philadelphia, PA

POLREP 22
12th Street Dump Site
(aka 12th Street Landfill Site)
Near 12th Street ramp to I-495
Wilmington, DE 19802

ATTN: RRC

cc: A. Breslin
P. Welsh
Wilmington Council
G. Giles

- I. SITUATION (as of 27 October 2000)
Event: CERCLA Removal Action
 - A. Erosion and sedimentation control facilities continue to function properly. Siltation fencing has held, all drainage enters the sedimentation pond, and pond water remains clear. No erosion from the site has been observed. Stockpiled soil now onsite is secured by compaction of surface.
 - B. START continues air monitoring for total respirable dust in air. Analytical results indicate concentrations far below risk based concentrations (0.00-0.02 mg per cubic meter).
 - C. As a result of discovering oily material along the creek bank near the north end of the site, OSC Towle instructed ERRS to excavate a series of test pits in an attempt to identify the source of contaminants. The test pits indicate that the oily material is emanating from somewhere near the north end of the site; however, a specific source has not yet been identified (likely behind the seawall, though). After discussing the situation with DNREC representatives, OSC Towle continues to investigate the area near the sea wall as a potential source. ERRS removed oily soil from near the sea wall and packed clean backfill into the area to stop the ongoing discharge. The removal remedy cannot be completed until the source of oil is known, and the discharge is addressed.
 - D. Based upon the detection of contaminated groundwater seeping from the creek bank, the OSC will task START with the preparation of an EE/CA for the site in order to assist the OSC and DNREC with the determination of potential need for future remedies at the site, and an evaluation of the permanence of the removal-installed remedy.

E. Estimated Project Costs (as of 27 October 2000):

ORGANIZATION	COSTS TO DATE	CEILING
ERRS (Guardian)	\$ 1,055,457	\$2,070,000
START (Weston/TtEMI)	\$ 36,955	\$ 120,000
EPA	\$ 66,881	\$ 240,000
Unallocated	<u>-----</u>	<u>103,000</u>
TOTAL	\$ 1,159,293	\$2,533,000

I. ACTIONS

- A. ERRS received a total of 641 truckloads of backfill material (approximately 13,675 tons) to be used in site capping operations; the backfill has been staged in two areas onsite for future distribution and grading operations at the site. In addition, ERRS received and temporarily staged the articulating concrete blocks (ACBs) to be used for stabilization of the new creek bank in the tidal zone.
- B. ERRS excavated two test pits adjacent to the sea wall at the northern end of the site in an attempt to identify the source of oily material seeping from the creek bank near the sea wall along Brandywine Creek. Due to the presence of an electric line and a sump pump discharge line, the test pit behind the seawall could not be advanced to the suspected depth of the oily source. Two soil samples were collected by START and sent for laboratory analyses (VOCs, SVOCs, and oil fingerprinting). Results indicated the presence of low levels of xylene, while fingerprinting tests indicate that the material consists primarily of fuel oil #2 with a mixture of possibly kerosene, diesel fuel, and other old weathered materials. The source of the contamination has not yet been identified. Contaminated soil from the pits was staged on plastic for future characterization and disposal.
- C. After the owner removed fencing from state-owned property to allow for implementation of the EPA remedy, ERRS installed temporary fencing along the northeast side of the site in order to provide some measure of site security for this area.
- D. ERRS began distributing, grading, and compacting stockpiled backfill material along the creek bank in accordance with the site capping plan.
- E. ERRS installed an 8-inch PVC drainage pipe near the northern end of the site between the Norfolk Southern railroad right-of-way and Brandywine Creek as planned; the drainage pipe trench has been backfilled and compacted, and will be covered with additional backfill and graded in accordance with the site

capping plan. The pipe is capped until the OSC coordinates with DNREC stormwater program, but was installed to facilitate capping operations.

- F. ERRS shipped 1 truck load of non-hazardous debris (approximately 7.25 tons of industrial hoses) from the site for disposal.

III. FUTURE ACTIONS

- A. ERRS to continue distributing and grading backfill material in accordance with the site capping plan; ERRS also to begin installing ACBs along bank of Brandywine Creek.
- B. Disposal of waste debris stockpiled onsite after proper sampling and waste classification.
- C. Extraction of sheet piling and preparation of Site for winter season.
- D. Investigation of the source of oily material discharging from the northern end of site to continue.
- E. EE/CA to be prepared for site.

Michael Towle, OSC
EPA Region III
Philadelphia, PA

POLREP 23
12th Street Dump Site
(aka 12th Street Landfill Site)
Near 12th Street ramp to I-495
Wilmington, DE 19802

ATTN: RRC

cc: A. Breslin
P. Welsh
Wilmington Council
G. Giles

I. SITUATION (as of 10 November 2000)
Event: CERCLA Removal Action

- A. Erosion and sedimentation control facilities continue to function properly. Siltation fencing has held, all drainage enters the sedimentation pond, and pond water remains clear. No erosion from the site has been observed. Stockpiled soil now onsite is secured by compaction of surface.
- B. During investigations at the site, pieces of hose have been found with labels indicating that these hoses originated from the Electric Rubber and Hose facility adjacent to the dump. These hoses were photodocumented, but the photos were blurred and unreadable upon development. In support of enforcement actions at the site, OSC Towle again instructed ERRS to excavate in areas known to contain additional pieces of hose at the site. However, despite finding large amounts of hose, no pieces could again be located containing that label information.
- C. Estimated Project Costs (as of 10 November 2000):

ORGANIZATION	COSTS TO DATE	CEILING
ERRS (Guardian)	\$ 1,123,313	\$2,070,000
START (Weston/TtEMI)	\$ 42,608	\$ 120,000
EPA	\$ 71,534	\$ 240,000
Unallocated	<u>-----</u>	<u>103,000</u>
TOTAL	\$ 1,237,455	\$2,533,000

- D. In continuing the investigation of oil noted at the north end of the site, ERRS excavated a test trench adjacent to the south end of the sea wall (down to the support timbers). A "fuel type" odor was noted, possibly attributable to creosote treated support timbers. In addition, an oil sheen has been noted emanating from sediments in Brandywine Creek outside of the sheet pile

installed at the site. The area at the junction of the sea wall and sheet pile appears to be a low flow collection area for sediment and other material in Brandywine Creek, and may have accumulated materials related to historical spills and releases to both Brandywine Creek and Shellpot Creek (an upstream tributary). Further investigation of the extent of oil contamination and a source will be conducted under separate authorities as "Brandywine Creek Mystery Oil (FPN# P01004)".

II. ACTIONS

- A. ERRS continued spreading, grading, and compacting backfill along the bank of Brandywine Creek in accordance with the site capping plan in preparation for the installation of articulating concrete block (ACB) panels.
- B. ERRS began installing the ACB panels along the bank of Brandywine Creek to provide soil stabilization during tidal fluctuations. Personnel are installing ACB panels beginning near the north end of the site and working toward the south. Panels are anchored into place using a toe-in trench near the top of the slope (covered with backfill), and a toe-in trench at the bottom of the slope (covered with rip-rap stone).
- C. ERRS excavated additional test trenches at the north end of the site in order to characterize soil in the area, and to search for hoses containing an "Electric Hose and Pipe" label. No labelled hoses were found. START collected 4 soil samples which were packaged and shipped for laboratory analysis.
- D. ERRS began spreading, grading, and compacting recycled concrete at the north end of the site (former ARS storage area) in accordance with the site capping plan.

III. FUTURE ACTIONS

- A. ERRS to continue distributing and grading backfill material in accordance with the site capping plan; ERRS also to continue installing ACBs along bank of Brandywine Creek.
- B. Disposal of waste debris stockpiled onsite after proper sampling and waste classification.
- C. Preparation of site for winter season; develop a plan for temporary and final vegetation of the site including consultation with state and federal trustees.
- D. Investigation of the source of oily material discharging from the northern end of site to continue under separate authority. The oil does not appear to be related to the materials dumped throughout the majority of the site.

E. EE/CA to be prepared for site.

Michael Towle, OSC
EPA Region III
Philadelphia, PA

POLREP 24
12th Street Dump Site
(aka 12th Street Landfill Site)
Near 12th Street ramp to I-495
Wilmington, DE 19802

ATTN: RRC

cc: A. Breslin
P. Welsh
Wilmington Council
G. Giles

I. SITUATION (as of 22 November 2000)
Event: CERCLA Removal Action

A. Erosion and sedimentation control facilities continue to function properly. Siltation fencing has held, all drainage enters the sedimentation pond, and pond water remains clear. No erosion from the site has been observed. Stockpiled soil now onsite is secured by compaction of surface.

B. Estimated Project Costs (as of 22 November 2000):

ORGANIZATION	COSTS TO DATE	CEILING
ERRS (Guardian)	\$ 1,191,530	\$2,070,000
START (Weston/TtEMI)	\$ 48,213	\$ 120,000
EPA	\$ 78,020	\$ 240,000
Unallocated	-----	103,000
TOTAL	\$ 1,317,763	\$2,533,000

II. ACTIONS

A. ERRS continued installing the Articulated Concrete Block (ACBs) panels along the bank of Brandywine Creek to provide soil stabilization during tidal fluctuations. Panels are anchored into place using a toe-in trench near the top of the slope (covered with backfill), and a toe-in trench at the bottom of the slope (covered with rip-rap stone).

B. ERRS continued spreading, grading, and compacting recycled concrete at the north end of the site (former ARS storage area) in accordance with the site capping plan. ERRS also placed cement barriers along the existing concrete pad at the north end of the site in order to provide a support for backfill and to delineate the property boundary for future use.

III. FUTURE ACTIONS

- A. ERRS to continue distributing and grading backfill material in accordance with the site capping plan; ERRS also to continue installing ACBs along bank of Brandywine Creek.
- B. Disposal of waste debris stockpiled onsite after proper sampling and waste classification.
- C. Preparation of site for winter season; develop a plan for temporary and final vegetation of the site including consultation with state and federal trustees.
- D. Investigation of the source of oily material discharging from the northern end of site to continue under separate authority. The oil does not appear to be related to the materials dumped throughout the majority of the site.
- E. EE/CA to be prepared for site.

Michael Towle, OSC
EPA Region III
Philadelphia, PA

POLREP 25
12th Street Dump Site
(aka 12th Street Landfill Site)
Near 12th Street ramp to I-495
Wilmington, DE 19802

ATTN: RRC

cc: A. Breslin
P. Welsh
Wilmington Council
G. Giles

I. SITUATION (as of 22 December 2000)
Event: CERCLA Removal Action

- A. The site will be temporarily demobilized for the holiday period between December 23 and January 2. Site operations will resume in early January with effort to secure site for longer demobilization.
- B. Erosion and sedimentation control facilities continue to function properly. Siltation fencing has held, all drainage enters the sedimentation pond, and pond water remains clear. No erosion from the site has been observed. Temporary vegetation has been placed on the site for the winter season.
- C. Estimated Project Costs (as of 20 December 2000):

ORGANIZATION	COSTS TO DATE	CEILING
ERRS (Guardian)	\$ 1,435,151	\$2,070,000
START (Weston/TtEMI)	\$ 48,510	\$ 120,000
EPA	\$ 90,240	\$ 240,000
Unallocated	<u>-----</u>	<u>103,000</u>
TOTAL	\$ 1,573,901	\$2,533,000

- D. Site analytical data indicates that bis (2-ethylhexyl) phthalate is a site contaminant, and, most likely, is attributable to the large amounts of rubber hoses present onsite. Analytical data for a sampling event conducted by START, and disposal analytical obtained by ERRS have documented the presence of this contaminant.

II. ACTIONS

- A. ERRS completed installing the Articulated Concrete Block (ACBs) panels along the bank of Brandywine Creek to provide soil stabilization during tidal

fluctuations. Panels are anchored into place using a toe-in trench near the top of the slope (covered with backfill), and a toe-in trench at the bottom of the slope (covered with rip-rap stone). In addition, rip-rap stone was used to transition from the ACBs to the sea wall at the northern end of the site and the outlet from the sedimentation pond at the southern end of the site.

- B. ERRS completed spreading, grading, and compacting recycled concrete at the north end of the site (former ARS storage area) in accordance with the site capping plan. ERRS also placed cement barriers along the existing concrete pad at the north end of the site in order to provide a support for backfill and to delineate the area of the site cap and concrete/blacktop surface existing in this area.
- C. ERRS completed grading of backfill over approximately 90% of the site; currently, the pile of contaminated soil from site operations was staged in the middle of the site. This open area will be addressed after the holiday demobilization period.
- D. ERRS placed approximately 4 inches of topsoil over the creek bank and half of the drainage swale (through the middle of the site) in accordance with site capping plans; personnel also hydroseeded these portions and the remainder of the site with winter rye as a means of temporary vegetation. Final revegetation of the site will be conducted in early spring. Cold weather and wet soil conditions have impeded our ability to complete topsoil operations.
- E. ERRS decontaminated metal debris from site operations by pressure washing the material to remove contaminated soil; metal debris was then loaded and transported from the site for salvage.
- F. ERRS loaded and shipped 36 truckloads (approximately 852 tons) of contaminated soil (characteristic waste D008 - lead) from the site; the contaminated soil was shipped for treatment and disposal.
- G. Analytical data received for sediment samples collected under separate authority from Brandywine Creek near the sea wall and sheet pile junction revealed the presence of PCBs (up to 3 mg/kg); this area of contaminated sediment must be addressed under removal action due to the presence of hazardous substances (not covered under OPA) posing a threat to public health and the environment. State officials have informed the OSC that there is a fish advisory for this section of Brandywine Creek due to PCB concentrations in fish.

III. FUTURE ACTIONS

- A. ERRS to complete spreading of backfill over contaminated area now exposed at location of former soil waste pile.
- B. Based on the presence of PCBs in Brandywine Creek sediment, The OSC must find a way to remove contaminated sediment from the area near the sea wall and sheet pile junction.
- C. EE/CA to prepared for site.
- D. ERRS to demobilize from site upon preparation for winter season; personnel will remobilize to site in early spring to complete removal action (revegetation, removal of sheet pile, etc).

Michael Towle, OSC
EPA Region III
Philadelphia, PA

POLREP 26
12th Street Dump Site
(aka 12th Street Landfill Site)
Near 12th Street ramp to I-495
Wilmington, DE 19802

ATTN: RRC

cc: A. Breslin
P. Welsh
Wilmington Council
G. Giles

I. SITUATION (as of 19 January 2001)
Event: CERCLA Removal Action - Winter Demobilization

- A. The site is being demobilized for the winter season; remobilization to the site will occur sometime in early spring in order to complete site activities (*i.e.* revegetation, sediment removal from Brandywine Creek, removal of trailer staging area parking lot, and other activities effectively complete with frozen ground and water).
- B. Erosion and sedimentation control facilities functioned properly throughout this mobilization period. Siltation fencing has held, all drainage entered the sedimentation pond, and pond water remained clear. No erosion from the site has been observed. Temporary vegetation has been placed on the site for the winter season, but did not germinate properly before the ground froze.

C. Estimated Project Costs (as of 17 January 2001):

ORGANIZATION	COSTS TO DATE	CEILING
ERRS (Guardian)	\$ 1,559,267	\$2,070,000
START (Weston/TtEMI)	\$ 67,936	\$ 120,000
EPA	\$ 97,760	\$ 240,000
Unallocated	<u>-----</u>	<u>103,000</u>
TOTAL	\$ 1,724,963	\$2,533,000

- D. Revegetation of the site will occur in early spring following the demobilization period for the winter season. Tentative plans are to revegetate the bank of Brandywine Creek with a variety of wetland vegetation including duck potato, bayonet rush, pickerelweed, arrow arum, sweet flag, and common three square; the remainder of the site would be revegetated with rice cutgrass under this plan. However, DNREC representatives have indicated that it is possible that the state may reactivate the site at some point in the future in order to conduct additional activities; The state and the OSC will

evaluate the results of an EE/CA to see if additional action at the site may be warranted. If this option is chosen, the OSC will conserve funds and revegetate the site with rice cutgrass, and will not revegetate tidal areas (ACBs and site cover/grading have negated erosion potential from these areas.

II. ACTIONS

- A. To date, the following materials have been excavated from the site and shipped offsite for disposal: approximately 852 tons of contaminated soil and debris (D008 characteristic waste), 90.77 tons of tree stumps (non-hazardous), 49.77 tons of debris (nonhazardous - primarily hoses), and 7.26 tons of timber pilings (nonhazardous).
- B. Upon removal of the former contaminated soil pile in the middle of the site, ERRS completed the placement and grading of backfill and topsoil over the entire site in accordance with site capping plans.
- C. ERRS punctured holes in the ACB fabric in order to allow for revegetation of the stream bank in early spring. Regarding revegetation of the site, the OSC is currently in discussions with DNREC representatives as to the type of vegetation to be placed onsite; this decision to be made based on potential future actions to be taken by DNREC at the site. The holes will not adversely affect the effectiveness of site cover to prevent erosion from the site.
- D. START continues to prepare an EE/CA for the site in support of potential future action which may be conducted by DNREC, EPA, or others as warranted.

III. FUTURE ACTIONS

- A. Based on the presence of PCBs in Brandywine Creek sediment, the OSC must find a way to remove contaminated sediment from the area near the sea wall and sheet pile junction.
- B. EE/CA to be completed for site.
- C. ERRS to remobilize to site in early spring to complete removal action (revegetation, removal of sheet pile, etc).

Michael Towle, OSC
EPA Region III
Philadelphia, PA

POLREP 27
12th Street Dump Site
(aka 12th Street Landfill Site)
Near 12th Street ramp to I-495
Wilmington, DE 19802

ATTN: RRC

cc: A. Breslin
P. Welsh
Wilmington Council
G. Giles

I. SITUATION (as of 2 March 2001)
Event: CERCLA Removal Action - Remobilization

- A. On Tuesday, 20 February, 2001, personnel and equipment were remobilized to the site in order to resume and complete the removal action and demobilize the site. Activities remaining to be conducted include: reconfiguring erosion and sedimentation controls, completion of stormwater control measures, removal of hot spot areas of contaminated sediment behind sheet pile, removal of sheet pile along Brandywine Creek, revegetation of the site, and removal of site support structures (*i.e.* trailers, parking lot).
- B. Erosion and sedimentation control facilities functioned properly throughout the demobilization period. Siltation fencing has held, all drainage entered the sedimentation pond, and pond water remains clear. No erosion from the site has been observed. Temporary vegetation has been placed on the site for the winter season, but did not germinate properly before the ground froze.
- C. Estimated Project Costs (as of 1 March 2001):

ORGANIZATION	COSTS TO DATE	CEILING
ERRS (Guardian)	\$ 1,560,731	\$2,070,000
START (Weston/TtEMI)	\$ 59,355	\$ 120,000
EPA	\$ 102,836	\$ 240,000
Unallocated	<u>-----</u>	<u>103,000</u>
TOTAL	\$ 1,722,922	\$2,533,000

- D. Revegetation of the site will occur upon removal of the sheet pile along Brandywine Creek. Tentative plans include replanting the site with a seed mixture of rice cut grass and other species native to the area. The sedimentation pond will be replanted with a mixture of native wetland species.

ORIGINAL

A. ERRS to continue activities in support of completing the removal action and demobilizing the site, including removal of sheet pile, revegetation, and removal of site support structures.

B. EE/CA to be completed for site.

Michael Towle, OSC
EPA Region III
Philadelphia, PA



POLREP 28

12th Street Dump Site

(aka 12th Street Landfill Site)

Near 12th Street ramp to I-495

Wilmington, DE 19802

ATTN: RRC

cc: A. Breslin

P. Welsh

Wilmington Council

G. Giles

I. Situation (as of March 16 2001)
Event: CERCLA Removal Action

- A. Erosion and sedimentation control facilities continue to function properly. Siltation fencing has held, all drainage enters the sedimentation pond, and pond water remains clear. No erosion from the site has been observed. Erosion and sedimentation controls were reconfigured to better control potential erosion once sheet piling is removed. Silt fence and blanket is now on the slope above the articulating concrete blocks.

B. Estimated Project Costs (as of March 15, 2001):

ORGANIZATION	COSTS TO DATE	CEILING
ERRS (Guardian)	\$ 1,601,414	\$ 2,070,000
START (Weston/TtEMI)	\$ 79,038	\$ 120,000
EPA	\$ 108,100	\$ 240,000
Unallocated	\$ -----	\$ <u>103,000</u>
TOTAL	\$ 1,788,552	\$ 2,553,000

- C. Revegetation of the site will occur upon extraction and decontamination of the sheet piling along Brandywine Creek. Tentative plans include replanting the site with a seed mixture of rice cutgrass and other species native to the area. The sedimentation pond will be replanted with a mixture of native wetland species.

II. ACTIONS

- A. Prior to extraction of sheet piling, ERRS excavated lead contaminated sediment in three "hot spots" along the creek bank. Each of these areas were located between the toe of the bank and the limit of disturbance.

- B. ERRS installed a reinforced concrete headwall at the outlet of the dewatering drainage pipe for waters backed up along the Norfolk and Southern railroad tracks. These waters found relief through the waste at the site. The drainage pipe is fitted with a one-way valve that will allow ponded water to drain into the creek, but will not allow tidal water to enter the railroad ditch.
- C. ERRS subcontractor, George and Lynch, completed extraction of sheet piling along Brandywine Creek. ERRS are using pressure washers and shovels to decontaminate sheet prior to load out. Extraction activities were monitored to verify that no damage to structures occurred.
- D. START researched and compiled a list of suggested plants for revegetation of the site. After review, this list was forwarded by the OSC to DNREC and U.S. Fish and Wildlife for comments.
- E. OSC evaluated geese hazing possibilities to ensure success of revegetation operations. Combinations of devices will be used to haze the geese per consultation with D.O.I.

III. FUTURE ACTIONS

- A. ERRS to continue activities in support of completing the removal action and demobilizing the site, including decontamination and load out of sheet pile, revegetation, and removal of site support structures.
- B. Prior to revegetation, approved and appropriate countermeasures may be taken to reduce the population of geese which have visited the site regularly since the site was seeded in the fall.
- C. EE/CA to be completed for the site.

Michael Towle, OSC
EPA Region III
Philadelphia, PA

ORIGINAL

POLREP 29
12th Street Dump Site
(aka 12th Street Landfill Site)
Near 12th Street ramp to I-495
Wilmington, DE 19802

ATTN: RRC

cc: A. Breslin
P. Welsh
Wilmington Council
G. Giles

I. Situation (as of April 6, 2001)
Event: CERCLA Removal Action

- A. Erosion and sedimentation control facilities continue to function properly. Siltation fencing has held, all drainage enters the sedimentation pond, and pond water remains clear. No erosion from the site has been observed. Erosion and sedimentation controls were reconfigured to better control potential erosion since sheet piling has been removed. Silt fence and blanket is now present on the slope above the articulating concrete blocks (ACBs). Revegetation of the site is scheduled to begin during the week of April 9, 2001; plans include replanting the site with a seed mixture of rice cutgrass and other species native to the area. The sedimentation pond will be replanted with a mixture of native wetland species.
- B. Estimated Project Costs (as of April 4, 2001):

ORGANIZATION	COSTS TO DATE	CEILING
ERRS (Guardian)	\$ 1,657,968	\$ 2,070,000
START (Weston/TtEMI)	\$ 84,605	\$ 120,000
EPA	\$ 112,095	\$ 240,000
Unallocated	\$ -----	\$ 103,000
TOTAL	\$ 1,854,668	\$ 2,553,000

II. ACTIONS

- A. ERRS continued to decon sheet pile utilizing pressure washers and shovels; clean sheet pile was subsequently loaded for shipment offsite.
- B. ERRS began spreading topsoil over the site to complete site capping operations in preparation for revegetation operations. ERRS also spread topsoil in and over the



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ACBs along Brandywine Creek in preparation for replanting.

- C. ERRS began removing the fence previously installed at the southern end of the site; in addition, personnel began "cleaning up" miscellaneous trash and debris (erosion control matting, poly sheeting, etc) from the site in preparation for future revegetation and demobilization.
- D. START procured a subcontractor to conduct new aerial photography and digital topographic mapping of the site and vicinity in order to document post-removal site conditions.
- E. START received analytical data for surface water and sediment samples collected from Brandywine Creek as well as surface soil samples collected from across 12th Street; data document the presence of elevated concentrations of lead (up to 50, 100 mg/kg) in surface soil across 12th Street.

III. FUTURE ACTIONS

- A. ERRS to continue activities in support of completing the removal action and demobilizing the site, including revegetation and removal of site support structures.
- B. Prior to revegetation, approved and appropriate countermeasures may be taken to reduce the population of geese which have visited the site regularly since the site was seeded in the fall.
- C. Transportation and disposal of remaining wastes (contaminated sediment) to be completed.
- D. EE/CA to be completed for the site.

Michael Towle, OSC
EPA Region III
Philadelphia, PA

POLREP 30
12th Street Dump Site
(aka 12th Street Landfill Site)
Near 12th Street ramp to I-495
Wilmington, DE 19802

ATTN: RRC

cc: A. Breslin
P. Welsh
Wilmington Council
G. Giles

I. Situation (as of April 12, 2001)
Event: CERCLA Removal Action

- A. Remaining temporary erosion and sedimentation control facilities continue to function properly. Siltation fencing has held, all drainage enters the sedimentation pond, and pond water remains clear. No erosion from the site has been observed. Permanent erosion and sediment controls were installed this week. Revegetation of the site with a seed mixture of rice cutgrass and other native species was completed. The sedimentation pond will be replanted with a mixture of native wetland species after vegetation on site is established.
- B. Evaluation of environmental sampling conducted as part of an effort to determine the extent of contamination associated with the historical disposal of industrial hoses and related debris, indicates lead contamination present well outside of the footprint of the EPA cover. Lead contamination in soil exists up to approximately 50,000 mg/kg in exposed soil areas on the north side of 12th Street in an area which appears to be an extension of the dump area subject to EPA Time Critical Removal Action. Elevated lead levels were also found in the area north of the EPA cover (railroad tracks/12th Street embankment), right field of the ballfield associated with Ganderhill prison, and in exposed sediment of the Brandywine Creek.
- C. As part of an effort to characterize additional areas of contamination apparently associated with the former operations of the Electric Hose and Rubber Co. facility, develop and evaluate possible alternatives to address contaminated areas identified, and develop and evaluate remedies to address potential threats not addressed by the Time Critical Removal Action; the OSC directed the START contractor coordinate and document these items. The OSC directed that the information developed by START be documented in the format of an Engineering Evaluation/Cost Analysis (EE/CA). The EE/CA is to be completed consistent with EPA and DNREC requirements for site remedy development. Although the EE/CA process is being followed, there is not a commitment to a non-Time Critical Removal Action.

D. Estimated Project Costs (as of April 12, 2001):

ORGANIZATION	COSTS TO DATE	CEILING
ERRS (Guardian)	\$ 1,652,997	\$ 2,070,000
START (Weston/TtEMI)	\$ 86,539	\$ 120,000
EPA	\$ 114,069	\$ 240,000
Unallocated	\$ -----	\$ <u>103,000</u>
TOTAL	\$ 1,853,605	\$ 2,553,000

II. ACTIONS

- A. ERRS finished spreading topsoil onsite and began seeding operations. The entire site was seeded and mulched by spreading seeds of rice cut grass and seeds of other native grass species with a hand spreader and spreading straw over seeded areas. The straw was then raked in with a disc rake to help secure seed and mulch in place. ERRS began spreading a tackifier solution over site to further help secure material. About 3/4 of the slope bank was not seeded due to heavy rainfall this week and will be seeded next week-weather permitting.
- B. Three trucks of contaminated sediments, generated during "hot spot" excavation activities along sheet pile, were transported offsite and disposed of on Wednesday, April 11, 2001.
- C. ERRS transported and disposed of one rolloff filled with debris on Thursday, April 12, 2001.
- D. ERRS implemented geese hazing operations onsite. Mylar balloons and streamers were tied to stakes throughout the site in an effort to reduce the geese population onsite to ensure successful revegetation of the site.
- E. START continues to work on report that evaluates alternative actions to address threats posed by the site. The report was drafted following the EE/CA process.

III. FUTURE ACTIONS

- A. ERRS to continue activities in support of completing the removal action and demobilizing the site, including revegetation and removal of site support structures.

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- B. Approved and appropriate countermeasures will continue to be used to reduce the population of geese during revegetation of the site.
 - C. START to complete evaluation of alternative actions report. OSC to coordinate with DNREC on a strategy to further characterize and remedy additional areas of contamination.

Michael Towle, OSC
EPA Region III
Philadelphia, PA

Original

POLREP 31
12th Street Dump Site
(aka 12th Street Landfill Site)
Near 12th Street ramp to I-495
Wilmington, DE 19802

ATTN: RRC

cc: A. Breslin
P. Welsh
Wilmington Council
G. Giles

I. Situation (as of April 27, 2001)
Event: CERCLA Removal Action

A. Erosion and sedimentation control facilities continue to function properly. Siltation fencing has held, all drainage enters the sedimentation pond, and pond water remains clear. No erosion from the site has been observed. Revegetation of the site has been initiated, and activities continue to promote the growth of planted species (*i.e.* irrigation).

B. Estimated Project Costs (as of April 25, 2001):

ORGANIZATION	COSTS TO DATE	CEILING
ERRS (Guardian)	\$ 1,693,515	\$ 2,070,000
START (Weston/TtEMI)	\$ 91,141	\$ 120,000
EPA	\$ 118,158	\$ 240,000
Unallocated	\$ -----	\$ <u>103,000</u>
TOTAL	\$ 1,902,814	\$ 2,553,000

II. ACTIONS

A. ERRS conducted revegetation activities by spreading specific seed varieties in previously designated areas. Seeded areas were subsequently covered with straw mulch and sprayed with a tackifier mixture in order to hold seed and mulch in place and prevent erosion. Additional areas remaining to be seeded and mulched include the parking lot area which will be removed upon completion of other site activities. In addition, ERRS has applied goose-hazing techniques at the site consisting of foil-like ribbon and mylar balloons in an attempt to reduce consumption of seed by geese which frequent the site.

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- B. ERRS loaded contaminated sediment (previously excavated from "hot spot" locations behind former sheet pile wall) for transportation and disposal. A total of approximately 69 tons of soil (characteristic waste D008-lead) was shipped to the Mill Services, Inc. facility in Yukon, PA.
- C. ERRS also began removing the recycled concrete fill material in the parking lot area in preparation for future demobilization of the site; as areas are removed, ERRS personnel continue to seed and mulch completed areas.
- D. After testing various methods, ERRS installed an irrigation system at the site to keep planted areas wet; the system includes a series of three-inch pumps drawing water from Brandywine Creek and pumping through a manifold system and garden hoses to a series of irrigation sprinkler heads.
- E. START continues to prepare a draft EE/CA for the site. While this document will not be a formal EE/CA in the sense that definitive actions will be taken based solely on this document, an EE/CA format was chosen as the best method to evaluate current conditions at the site as well as to evaluate other potential future actions which might be taken at the site. Thus, the EE/CA will serve to provide a summary of all actions taken to date under the time-critical removal action initiated in April 2000, and evaluate current conditions at the site (*i.e.* post removal action conditions) while also providing an evaluation of additional alternatives for further remedial actions at the site, should they be deemed necessary.

III. FUTURE ACTIONS

- A. ERRS to continue activities in support of completing the removal action and demobilizing the site, including revegetation, reducing geese populations which regularly visit the site, and removal of site support structures.
- B. Draft EE/CA to be completed for the site.

Michael Towle, OSC
EPA Region III
Philadelphia, PA

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POLREP 32
12th Street Dump Site
(aka 12th Street Landfill Site)
near 12th Street ramp to I-495
Wilmington, DE 19802

ATTN: RRC

I. Situation (as of 05 September 01)
Event: CERCLA Removal Action

- A. The 12th Street Landfill/Dump Site is now demobilized. The duration of the demobilization period, which began June 29, will be dependent upon the success of the vegetation planted on the Site to function as a permanent erosion and sedimentation control for the Site. The OSC directed that the Site be planted with grass and other species native to Delaware and suitable for erosion control. Significant precipitation in April, a lack of precipitation in May, and a relatively dry summer has apparently resulted in only a fair success probability for the selected vegetation at the Site. When the Site was demobilized at the end of June, only the "contractor mix" grasses planted amongst the native species (as well as an abundance of weeds from the topsoil) appear to have emerged over the majority of the Site. Wetland-type species planted amongst the articulated concrete blocks, disturbed Creek sediment, and former sedimentation pond were mostly eaten by the geese, despite the deployed hazing efforts. The OSC will continue to monitor the vegetation at the Site to ensure that the final erosion and sedimentation control tool (vegetation) is successful.
- B. The access agreements for the Site with various property owners have expired. The OSC has notified the regional office of the potential need to re-enter the Site should additional vegetation work be required.
- C. The OSC left portions of the perimeter fencing on the Site at the request of representatives of the Delaware Department of Transportation. DELDOT is establishing a perimeter fence for their property.
- D. Estimated project costs

<u>ORGANIZATION</u>	<u>Costs to Date</u>	<u>Ceiling</u>
ERRS (Guardian)	\$ 1,833,098	\$ 2,070,000
START (Weston/TT EMI)	129,902	140,000
EPA	126,477	240,000
Unallocated	*	83,000
TOTAL	<u>\$ 2,089,477</u>	<u>\$ 2,553,000</u>

II. Actions

- A. Guardian completed planting the Site pursuant to a vegetation plan prepared by the OSC. Seeds native to Delaware and suitable for the Site conditions were utilized.
- B. Guardian continued to operate an irrigation system for the Site. This system was required to promote growth due to high heat and low rainfall after the seeds were planted. The irrigation system was demobilized by the end of June.
- C. Guardian completed the removal of the recycled concrete command post/staging area, removed excess concrete block and demobilized equipment and support structures and utilities. All excess materials and materials brought to the Site to facilitate the action were demobilized. All disturbed areas were then seeded, mulched and watered.
- D. Guardian constructed the headwall for the drain pipe connecting the railroad ditch and the Creek. Once installed, the pipe was allowed to drain standing water from the upgradient side of the fill area. This pipe will reduce the amount of water that would otherwise flow through the waste materials at the Site.
- E. Guardian dismantled the temporary fencing at the Site and coordinated with DELDOT regarding leaving the remainder of the fencing at the Site to secure DELDOT properties.
- F. The OSC attended a meeting with DNREC and potentially responsible parties to update all parties on the status of the Site and potential future actions by DNREC. The parties were encouraged to work with DNREC to ensure that all Site contaminants (including areas not addressed by the action, e.g., across 12th Street) were addressed pursuant to State criteria.
- G. Guardian planted wetland-type species along the articulated block Creek bank, sediment areas disturbed during the action, and the footprint of the former sedimentation pond. Geese ate a lot of this vegetation.
- H. Guardian removed the sedimentation pond outlet structure after the OSC determined that vegetation was establishing itself over critical areas. The pond outlet structure (earth and stone) removal allows tidal water to enter and exit the former sedimentation pond.
- I. START completed a draft "EE/CA" (see POLREP 31) for the Site. The OSC delivered this evaluation of potential remedies for the remaining area of contamination to DNREC.
- J. START has completed periodic sampling and monitoring of the Site. Discharges along the bank were sampled during slack high tide to evaluate whether ground water discharges along the Site were posing a threat to the River or existed above regulatory levels.
- K. The OSC inspected the vegetation on 5 September 01 and found that, beyond the wetland species in the former sedimentation pond, the vast majority of the Site was covered with a variety of grasses and weeds; most of which were not part of the native and beneficial species planted during the active Removal Action. Turf grasses were evident beneath the weeds and wildflowers. Grasses were growing amongst the concrete blocks. There was no evidence of soil erosion from the Site that would require an immediate action to stabilize. The OSC decided that no action was necessary at this time beyond continued monitoring.

III. Future Actions

- A. Monitor the success of the final erosion and sedimentation control feature (vegetation). Prepare to re-mobilize to the Site to ensure the success of a vegetation cover to minimize erosion should existing vegetation not be suitable. The OSC will need to re-establish access agreements if this becomes necessary.

Michael Towle, OSC
EPA Region III
Philadelphia, PA

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POLREP 33 and FINAL
CLOSEOUT SPECIAL BULLETIN
12th Street Dump Site
(aka 12th Street Landfill Site)
near 12th Street ramp to I-495
Wilmington, DE 19802

ATTN: RRC
DATE: 21 March 2003

I. SUMMARY FACTS

SITE NAME: 12th Street Landfill (a/k/a 12th Street Dump)

SITE SIZE: The area of disposal is about 5 acres in size, but is spread over several parcels of land totaling more than 20 acres

SITE LOCATION: Along 12th Street and in the southwest quadrant of the intersection between I-495 and 12th Street; and, bounded by 12th Street, I-495, the Norfolk and Southern Railroad right of way and the Brandywine Creek

INITIAL FUNDING: Action Memorandum approved 13 March, 2000

PROJECT PERIOD: 5 April, 2000 through 29 June 2001

PROJECT DESCRIPTION: The 12th Street Landfill Site was the location of a dump of old industrial hoses and related debris from an adjacent factory. Hazardous substances in the waste dump were migrating into the Brandywine Creek as soil eroded from the Site. The goal of the project was to minimize this erosion and migration of hazardous substances by re-grading the Creek bank and Site and then placing a cover over the contaminated soil. Erosion and Sedimentation controls, both temporary and permanent, were installed. Temporary controls (e.g., temporary vegetation and silt fencing) were removed. Sheet piling was installed alongside the Site to enable work on the Creek bank and later removed. Drainage during the construction activities was directed into an on-site retention pond. A system of articulated concrete blocks was placed on the Creek bank to further stabilize the Site and prevent erosion over the longer term. A soil cover and permanent vegetative cover were installed to minimize future erosion and migration of hazardous substances. The only contamination removed from the Site was that which could not be consolidated back into the subsurface beneath the cap (e.g., hoses and some contaminated soil); mostly, grading efforts reduced the amount of material to be disposed.

HAZARDOUS SUBSTANCES: Lead, Chromium, Arsenic, bis-2-EH Phthalate

QUANTITIES REMOVED: About 1000 tons of contaminated (lead) soil

DISPOSAL LOCATION: Mill Services, Yukon, Pennsylvania

PRIMARY CONTRACTOR: Guardian Environmental Services, Bear, Delaware

PROJECT CEILING: \$2,533,000

PROJECT ESTIMATED COST: 2,096,821

OSC: Michael Towle

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II. SUMMARY OF INCIDENT

The information relating to the incident is contained with the 12th Street Landfill Site file located in EPA Region III Offices in Philadelphia, PA. The files contain documents such as Pollution Reports (POLREPS) numbered 1 through 32 which summarize the incident as it progressed. The files also contain aerial photographs, erosion and sedimentation control plans and figures, technical drawings, logbooks, sampling and analytical information, land owner information, photographs, correspondence, and other information relating to the response.

The On-Scene Coordinator initiated a removal site evaluation of the 12th Street Landfill Site in July 1999. The request for the evaluation stemmed from the discovery of drums emerging from the soil along the eastern bank of the Brandywine Creek by the Delaware Department of Natural Resources and Environmental Control (DNREC). After the OSC received permission to access parcels requiring evaluation, environmental sampling was initiated in August 1999. Additionally, a right-of-entry agreement was developed between EPA and the Norfolk and Southern Railroad. Samples of soil, sediment, and drum residues were collected. The sediment samples were collected from the exposed "mudflat" of the Creek during low tide. Drum residues were collected from test pits excavated. Elevated organic readings were detected in the presence of drum remains and test pits. Large amounts of rubber hoses were observed in the excavated pits. Descriptions of field activities, access agreements, analytical data, and other information related to the Removal Site Evaluation are contained in the Site files in EPA Region III. Also refer to POLREPs #1 and #2. Lead levels in the soil approached 164,000 mg/kg. Lead levels in the sediment approached 19,500 mg/kg.

Based upon the information obtained during the Removal Site Evaluation and consultation with federal natural resource trustees and DNREC, the OSC recommended that a Time-Critical Removal Action be initiated at the Site. On March 13, 2000, the Region approved funding in the amount of \$1,983,000 to conduct a removal action at the Site. Refer to POLREP #2 and the March 13, 2000, Action Memorandum for a description of the threats posed by the Site and the proposed mitigation actions. Internal discussions at EPA and DNREC suggested that it was very unlikely that the land owner (Wilmington Economic Development Corporation) would be able to conduct required actions in a timely manner. At the initiation of the action, the OSC believed that wastes were located only on this particular parcel of land.

The OSC established the primary objective of the action to minimize the migration of soil (and contamination) to the Brandywine Creek. This objective was to be achieved by grading the Site to minimize erosion (the banks were nearly vertical), removing high threat debris from the surface of the soil (e.g., contaminated hoses, debris, and soil), placing a soil cover over the properly graded surface, and providing a non-eroding cover over the Site. At the initiation of the removal action, vegetation was removed from the Site to facilitate the future grading process. Drums and hoses in the surface soil (e.g., upper 2 feet) were removed and staged. Sheet piling was placed alongside the Site to enable the grading to continue along the Creek bank. All these activities were accomplished consistent with a erosion and sedimentation control plan coordinated with DNREC. That plan required the installation of silt fencing, a sedimentation pond, temporary vegetation, and other measures to minimize the amount of solids that could

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migrate to the Brandywine Creek. The measures taken during this stage of the action are summarized in the POLREPS and the Site's erosion and sedimentation control plans and figures. These documents are maintained in the Site file within the Regional Office of EPA.

The OSC coordinated with a local business owner to remove equipment stored on the ground surface. A check of the deed and a survey of the land indicated that the equipment was placed on property not owned by the business owner. The equipment would impede the remedy. The OSC subsequently found that the area of disposal was significantly larger than first presumed. Wastes were found in the ground on parcels adjacent to EPA's prime work area. Ultimately, the expanded area of disposal required an expanded remedy and an increase in the amount of funding needed to successfully mitigate threats posed by the Site. A new funding level of \$2,533,000 was approved on September 30, 2000. The OSC also coordinated with the adjacent railroad and other landowners to ensure that access agreements included necessary scope to conduct removal activities.

The surface water alongside the Site was sampled. The results indicate that surface water was below risk-based levels such as Water Quality Standards.

In early August 2000, cleanup crews began to prepare for the installation of sheet piling alongside the Site. Large rocks or debris in the line of the piling were removed. During installation, an engineering firm was engaged to monitor the vibrations of the installation and ensure that surrounding structures were not impacted. The report, now contained in the Site file, showed they were not. The sheeting was completed in late August. The sheeting was intended to prevent soil from migrating into the Brandywine Creek while the soils along the bank were excavated, graded, covered, compacted, and then constructed with an articulated concrete block armoring system. After water behind the piling was pumped into the retention pond, the removal action on the bank was implemented. Some obviously contaminated soil was removed, but grading was the primary mechanism for ensuring that the grade was modified to 3:1. After a soil cover was placed, a layer of articulated block was placed to improve the ability of the Creek bank to withstand erosion.

In September, increased funding was needed to complete the action primarily due to the expanded area of disposal and increased area of cover needed. An Action Memorandum was signed on September 30th increasing the project ceiling to \$2,533,000. A swale was designed in the middle of the Site to drain water from the entire site into the retention pond and the Site cover began to be installed in early November. After the blocks were installed on the Creek bank, a soil cover was placed over the remainder of the Site. A marker fabric was placed between the contaminated soil surface and the soil cover. A temporary vegetative cover was placed on the soil cover for the winter in December 2000. Also in December, the majority of the contaminated soil was transported from the Site. The Site was demobilized for the winter in January 2001.

The Site was re-mobilized in March 2001. Silt fencing was placed along the Creek bank and the sheet piling was removed, cleaned and transported from the Site. Before it was removed, small areas of lead-contaminated sediment were removed from the mud flat. The removal of the sheeting was completed by late March and preparations were begun to install the permanent

erosion and sedimentation control (vegetative cover). The OSC coordinated with DNREC and selected vegetation that would minimize erosion and would be suitable for growth in the subject area. The OSC also evaluated methods for hazing of geese populations in the area. A topsoil layer was placed on the Site and then seeded. Specific plants were also placed in the tidal portions articulated concrete blocks, retention pond, and mudflat. Despite geese hazing efforts (mylar balloons), much of the plants/seed were eaten. An irrigation system was installed to keep the vegetation moist. A very dry Spring reduced the potential for success of the vegetation effort. The Site was demobilized in June and the OSC would return in Fall 2001 and Spring 2002 to evaluate the E&S Controls.

In September 2001, the OSC inspected the Site and found that nearly all of the native and beneficial species planted were overgrown by weeds and other species. The vegetation planted is identified in the Site files. Despite this, sufficient growth of vegetation had occurred such that erosion would not be a significant concern warranting remobilization of the Site. The OSC again inspected the Site on April 25. The vegetation was still primarily that which was not planted by EPA, but sufficient growth of grasses had occurred such that erosion would not be a concern. Thus, the OSC decided that no further activity would take place.

The OSC coordinated the end of the Removal Action with DNREC. Potentially responsible parties were identified and informed of all activities. The Removal Action addressed only a portion of what may be a larger Site to be handled by DNREC. The larger site may include a Facility in which the hoses were manufactured and other disposal areas. However, the evaluation conducted by the OSC found that these other areas were not necessarily releasing or threatening to release hazardous substances to pose a significant threat to the environment and human health. DNREC took the lead on working on future solutions to the larger Site.

III. ROSTER of AGENCIES and ORGANIZATIONS

ORGANIZATION	ROLE	NAME	CONTACT
U.S. EPA III	OSC, Direct response action	Michael Towle	215-814-3272
DNREC	Support response action and provide State ARAR	Ann Breslin	302-395-2610
Wilmington, Emergency Management	Coordinate Local entity	George Giles	303-571-4430
Wilmington, Economic Development	Owner of parcel and coordinate Local entity	Constance McCarthy	
Guardian	Prime cleanup contractor	James Crosby	302-834-1000
George & Lynch	Sheet Piling		
Schnabel Engineering	Sheet Piling Support	Doug Anderson	610-696-6066
Weston	Technical/Engineering Support	Bill Zahn	610-701-7545

Tetra Tech	Technical Support	Brian Croft	610-485-6410
Stephens Environmental	Survey	Bill Stephens	410-658-7298
Delaware DOT	Owner of parcel and coordinate State entity	David Wood	302-760-2231
Norfolk & Southern	railroad owner and coordinate w/OSC	John Keys	302-731-2549
Asset Recovery Services	owner of equipment on affected parcel	Tony Mitlo	302-575-1277

IV. FEDERAL RESOURCES

LINE ITEM	CEILING	ESTIMATED COSTS
ERRS CONTRACTOR - GUARDIAN	\$ 2,070,000	\$ 1,840,442
TECHNICAL SUPPORT CONTRACTOR - TETRA TECH (and previous contractor Weston)	\$ 140,000	\$ 129,902
EPA	\$ 240,000	\$ 126,477

V. WASTE TREATMENT & DISPOSAL

Although small amounts of metal were sent to a local salvage yard, all materials removed from this Site were debris, soil, and sediment. Some of this debris was decontaminated on the Site (e.g., scrap metal) and given to a local scrap yard. Most of the material (soil and sediment) was transported from the Site to a Facility that stabilized the solids with lime and phosphate to reduce the potential for the leaching of lead and then disposed the material into a residual waste landfill. The soil was sent to Mill Services Inc. of Yukon, Pennsylvania for that purpose. Ultimately, an estimated 1000 tons of soil and sediment were shipped for disposal in this manner. Several truckloads of industrial hoses were sent to a local landfill after the dirt was washed off.

VI. FUTURE CONSIDERATIONS

At the end of the Action, the goals of the response were met. Although very little waste was actually removed and disposed, the hazardous substances that remained were contained and posed very little threat to human health and the environment. The vast majority of the wastes at the Site were simply graded and covered with a soil or a soil and articulated concrete block cover. Large amounts of hazardous substances remain on-Site beneath the soil cover.

The temporary erosion and sedimentation controls were removed. The retention/sedimentation

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pond was left in place. However, the pond was acting as a tidal pool after EPA pulled out the weir. The security fencing was removed; although, portions were left to be used by DELDOT to support their efforts to restrict access to their property at the Site.

The OSC met with and coordinated with DNREC which took the lead on possible future actions relating to the Site and related areas (e.g., Facility and other disposal areas). The OSC provided DNREC with all sampling information and all information relating to current and previous owner/operators.

Michael Towle, OSC
EPA Region III
Philadelphia, PA